Electronic Monitoring

A Background Discussion Paper from the Pacific Council Perspective

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Introduction

At-sea and dockside monitoring of catch and landings play an important role in the collection of scientific data, catch accounting as well as enforcement of fisheries regulations. With the recent emphasis on ACL requirements as well as the implementation of catch share programs around the country the demands for accurate and timely catch monitoring have been increasing. At the same time, the tightening budget situation for the foreseeable future demands that fisheries monitoring become more cost effective and capable of incorporating new technologies such as Electronic Monitoring (EM).

Current Use of Electronic Monitoring in US Fisheries

There has been increased interest in incorporating the use of electronic technologies (cameras and e-logbooks) into monitoring strategies for US fisheries. Fueling this interest is recognition that our current monitoring strategies are creating significant cost burdens on agency resources and, particularly in the case of catch share fisheries, the industry itself. The success of the electronic monitoring of vessel whereabouts via the Vessel Monitoring System (VMS) applications has been a basis for exploring additional applications involving catch monitoring associated with active fishing.

While interest in electronic monitoring is high, there are few on-the-water monitoring programs in US fisheries that utilize electronic technologies beyond the VMS application. Even though there have been more than 20 EM pilot projects since 2002 throughout the different Council regions, EM is currently only approved for only limited compliance monitoring use in two Alaskan fisheries.

Electronic Monitoring and Pacific Groundfish Fisheries

Experience in Pacific Whiting Fishery

From 2004-2010 cameras were used in the Pacific whiting fishery under an EFP program to monitor compliance with maximized retention fishery coupled with dockside monitors. While the program achieved many of its goals, it was discontinued when the fishery transitioned to the catch share program, which required 100% human observer coverage on all vessels. Two of the key factors of the Council's decision to require 100% observer coverage on these vessels were enforcement concerns related to a case of camera tampering that had occurred during the EFP as well as challenges in accurately

accounting for operational discards, particularly associated with discard events prior to bringing the net onboard.

Catch Share Program Monitoring Requirements Presents Cost Challenges

All limited entry trawl vessels in both the whiting and bottomtrawl fisheries operating under Pacific Groundfish trawl catch shares program are subject to both 100% at-sea observer and dockside monitoring. Over a four year period, the direct costs of the observers and catch monitors are being transitioned to the industry. During the first year of the program (2011) costs to the fishermen were reimbursed at 90% of the daily rate (capped at $365/day), and this year a flat reimbursement of $328/sea day covers about 70-85 percent of the daily rate fishermen pay to participating observer companies. Next year, the reimbursement rate is expected to drop significantly and by 2015 industry is anticipated to be fully responsible for these direct costs, in addition to the 3% cost recovery mandated by MSA scheduled for implementation in 2013. Industry also continues to carry the burden of repaying a buyback loan at the rate of 5% of ex-vessel value per year.

The catch shares program's early performance in the first year after implementation shows significant promise in meeting many of its goals: revenues were higher, up 14 percent from the historical average for non-whiting groundfish and 121 percent for whiting, while discards were dramatically reduced, particularly for rebuilding species. Landings of non-whiting groundfish was however lower than in the five years preceding the catch share program leading to significant potential value being left in the water and lost to varying degrees depending on the annual natural mortality rate of the various species. Key to the program's long term success will be increasing the value of the fishery as well as making the program more cost effective while maintaining the individual accountability required under the plan.

Electronic Monitoring Feasibility Plan

Recognizing the importance of identifying and implementing ways to reduce costs associated with the program in a timely manner, an EM feasibility plan has been developed to demonstrate the feasibility of using EM (cameras) for catch compliance monitoring on different components of the trawl fleet and to look at how an integrated EM program (cameras plus electronic logbooks) could support catch accounting requirements in the future. The goals of the feasibility study are as follows.

Short Term Goals:

1. Compare EM to the observer data to determine confidence levels.
2. Set up EM review and camera install and maintenance infrastructure.
3. Solve issues as they arise through a collaborative group process (includes fishermen, managers, enforcement personnel).

Long Term Goals

1. Maintain the biological integrity of the existing system.

2. Save some money for fishermen and the agency (and ultimately the taxpayers and consumers).
3. Insure the confidence of the landing and discard data.
4. Integrate cameras with electronic logbooks.
5. Look for opportunities to add to stock assessment information.

The Pacific States Marine Fisheries Commission is overseeing the EM feasibility project which will focus its year one field testing on three segments of the fisheries: whiting (shoreside and mothership), trawl vessels using fixed gear to harvest IFQ species, and bottomtrawl vessels fishing seaward of the Rockfish Conservation Area (RCA) where lower encounters of overfished species are expected. Since current observer requirements remain in effect, there is an opportunity to compare observer data to EM information on every trip. Attachment 1 describes the draft study design and timeline in more detail.

There is considerable emphasis on engaging all parties (fishermen, managers, enforcement, Council) in the feasibility plan so that this does not become just one more pilot study but rather a focused strategy toward incorporating EM as part of a more cost effective monitoring program. There is recognition that human observers collect important scientific information and that wholesale replacement of observers across all vessels on all trips is unlikely. At the same time, regulatory changes which could be required (e.g., full retention) may also influence the level of at-sea observers needed to collect biological information. Ultimately, the goal is a comprehensive cost effective monitoring program that appropriately utilizes all of the collection modalities required to meet the data collection requirements of the fishery management plan.

The Pacific Council's SSC, Enforcement Committee, and Groundfish Advisory Subpanel are scheduled to review a comprehensive study design in June. The Pacific Council will hear a progress report in the fall and the first year report at the March 2013 meeting. Ultimately, it is hoped the Pacific Council will consider a regulatory amendment related to potential revisions to the 100% human observer monitoring requirements currently in effect.

Developing Successful Monitoring Strategies that include Electronic Monitoring in US Fisheries

Electronic monitoring discussions underway for the Pacific groundfish fishery are not unique to our region. Most, if not all, other Regions are facing similar concerns related to meeting the monitoring requirements of Council fishery management plans. Yet there has been little discussion between Councils about results of ongoing pilot studies and challenges in implementing electronic monitoring programs. Allocation of funding to the most promising potential EM programs remains a significant problem.

The need for a requirement-based strategy to improve fishery-dependent data collection program is also a priority at the national level of NMFS. Dr. Mark Holliday presented an overview of this national initiative at the April Pacific Council meeting. A copy of his powerpoint presentation is available at http://www.pcouncil.org/wp-content/uploads/I4b_SUP_NMFS_PPT_APR2012BB.pdf. As part of the work plan to develop this strategy, NMFS has initiated the development of six white papers to evaluate and identify ways to resolve key impediments to incorporation of EM into US fisheries monitoring programs scheduled for completion by fall 2012.

On Thursday afternoon under the Program Review agenda item, there is a brief opportunity to discuss ways to most productively further both the regional and national efforts at developing more cost effective monitoring strategies that include EM. With regard to potential funding, it might be useful to hear from each of the Council areas whether an active proposal for action exists, and specifics of the proposal.